

would be dangerous as far as modern medicine is concerned. The fact that the whole tenor of the Law promoted health is a truly remarkable sign of its inspiration. The contemporary societies surrounding Israel knew nothing of these

principles. Theirs was a world of magic and incantations. The complete absence of error in Scripture is a strong rebuff to the idea that Moses learned the wisdom of the Law from Egyptian or Sumerian society.

Being understood by the things that are made

Nigel Bernard

The finely balanced universe and the wonders of the human body are some of the evidence for a Creator. This evidence is matched by the precision of the Word of God in the way it describes the things that have been created. The Word of God tells us that the wonders of creation show not only that there is a God, but also that He will reward those who seek Him.

PAUL STATES in Romans 1:20, "For the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even His eternal power and Godhead; so that they are without excuse". This verse shows that the whole creation provides evidence that there is a God. In the previous verse Paul wrote, ". . . because that which may be known of God is manifest in them; for God hath shewed it unto them". God has "shewed" what is "known" about Him through His Word. In His Word God sometimes speaks about "the things that are made". In this article we will use the Word of God to provide us with insight into how "the things that are made" demonstrate the power and wisdom of the Creator.

The beginning

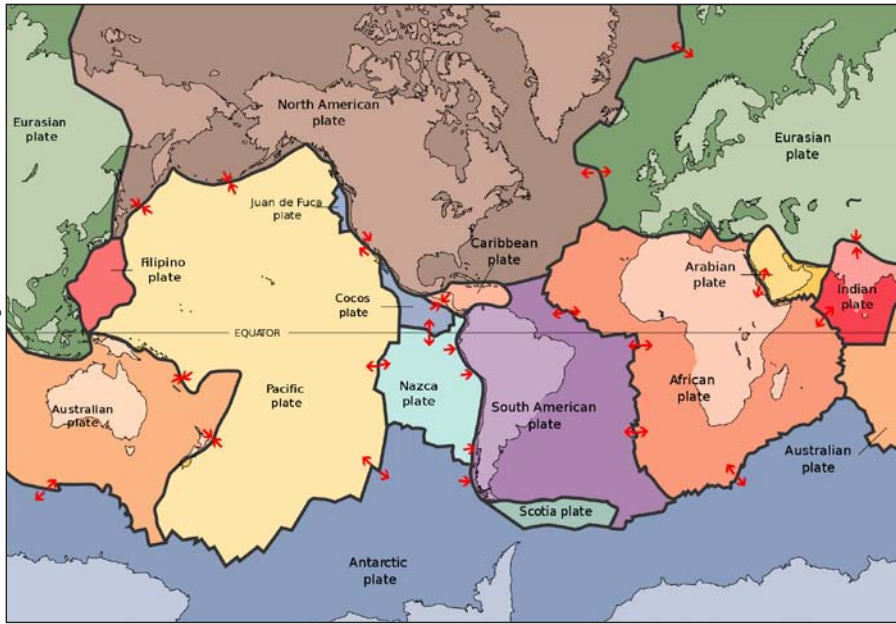
Genesis 1:1 states, "In the beginning God created the heaven and the earth". The psalmist speaks of these words when he says, "Thy word is true from the beginning" (119:160). The psalmist provides inspired reassurance that the words at the beginning of the book of Genesis are true. Moreover, the words of the psalmist apply not just to the beginning of Genesis 1 but also to the beginning of creation itself. The words "Let there be light" were no less true than later words spoken by God.

Steven Weinberg is a Nobel prize-winning physicist who wrote a popular science book called

The First Three Minutes. It was originally published in 1977, and a second edition was published in 1993. The book is an account of, as its subtitle declares, "the origin of the universe". The book assumes that the universe began with the 'Big Bang'. As the title implies, he deals with the first three minutes from the moment of the Big

Bang. But, he writes, imagining that a film was made of the beginning, "Unfortunately, I cannot start the film at zero time and infinite temperature".¹ The reason for this, he says, is because the presumed "presence of large numbers of . . . strongly interacting particles makes it extraordinarily difficult to calculate the behaviour of matter at super-high temperatures, so to avoid such difficult mathematical problems I will start the story in this chapter at about one-hundredth of a second after the beginning . . ." ² This may seem an insignificant amount of time, but it shows that man, even by his own admission, using his own presumptions about the early universe, cannot speak about the very beginning. He writes later on in his book that "our ignorance of microscopic physics stands as a veil, obscuring our view of the very beginning".³ By contrast, the Bible takes us to the beginning, and, even more remarkably, asserts what was before the beginning, that is, God Himself. The existence of the heavens and the earth leads to the understanding that they originated with an infinite power, or, as Paul terms it, "His eternal power and Godhead".

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1. Weinberg, S. (1993), *The First Three Minutes*, New York, Basic Books, p. 101.
 2. *Ibid.*, p. 102.
 3. *Ibid.*, p. 134.



Earth's tectonic plates, spread out by God.

Weighed with wisdom

In Proverbs 8 wisdom is personified, and verse 23 tells us that she was present in the beginning: "I was set up from everlasting, from the beginning, or ever the earth was". One way in which the wisdom of God is manifested in creation is the way the constituents of the heavens and earth are weighed and measured. Isaiah asks this question in 40:12: "Who hath measured the waters in the hollow of His hand, and meted out heaven with the span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in a balance?"—implying that only God has done so.

The amazing precision with which the heavens and earth were created is seen even at the subatomic level. Steven Hawking has written, "The laws of science, as we know them at present, contain many fundamental numbers, like the size of the electric charge of the electron and the ratio of the masses of the proton and the electron . . . The remarkable fact is that the values of these numbers seem to have been very finely adjusted to make possible the development of life".⁴ That the various amounts appear to be "finely adjusted" is evidence of the wisdom present at creation.

Just as the universe is finely adjusted, so too is the Word of God. The precise use of language in the Word is seen in the way aspects of the heavens and earth are described. We will now consider a specific example: plate tectonics.

Plates

"Thus saith God the LORD [Yahweh], He that created the heavens, and stretched them out; He that spread forth the earth, and that which cometh out of it; He that giveth breath unto the people upon it, and spirit to them that walk therein . . .", writes Isaiah (42:5). Here he says that God "spread forth the earth". A similar statement is found later on in Isaiah: "Thus saith the LORD [Yahweh], thy redeemer, and He that formed thee from the womb, I am the LORD [Yahweh] that maketh all things; that stretcheth forth the heavens alone; that spreadeth abroad the earth by Myself" (44:24). What does it mean for the earth to be "spread"?

In Exodus 39:3 the Hebrew word for 'spread' in Isaiah is used in relation to the preparation of gold for the tabernacle and is translated 'beat': "And they did *beat* the gold into thin plates, and cut it into wires, to work it in the blue, and in the purple, and in the scarlet, and in the fine linen, with cunning work". As the gold was beaten it became thinner and its area increased, and so it was *spread* into a plate. It could then be cut into wires. In Numbers 16:39 the word is used of the beaten censers used to cover the brazen altar, and is translated as "made broad plates". In Jeremiah 10:9 the word is translated "*spread into plates*".

4. Hawking, S. (1988), *A Brief History of Time*, London, Bantam Press, p. 125.

When God “spread forth the earth” it was as though He was making a thin plate. But the earth is roughly a sphere, thousands of miles deep. How can it be said that the earth has been spread thin like a plate?

The distance from the surface to the centre of the earth varies, but at the equator it is roughly 6,378 kilometres. The structure of the earth varies according to depth. This structure has been inferred from the way that seismic waves caused by earthquakes travel through the earth. The outer layer of the earth is known as the lithosphere. It is 50-300 kilometres thick. The earth’s crust is the upper part of the lithosphere. The lithosphere lies on top of the asthenosphere. This layer extends to a depth of 660 kilometres. The asthenosphere is weaker and tends to deform in response to pressure from the lithosphere.

Although the lithosphere is up to 300 kilometres thick, it is thin in relation to the total depth of the earth. Moreover, according to the theory of plate tectonics, the lithosphere is broken up into different pieces. As one writer has stated: “the lithosphere is broken into numerous segments or plates that are in motion with respect to one another and are continually changing in shape and size”.⁵ Sometimes, when two plates meet, one plate will go under the other. This is called subduction. The tsunami in December 2004 was caused by a sudden slippage of the Indian Plate, which subducts under the Burma Plate. Alternatively, plates may simply collide, or they may grind past each other. The latter example was seen in the case of the Haiti earthquake in January of this year. This was caused by a sudden release of energy that had built up between the Caribbean and the North American tectonic plates.

So, when the Bible says that the earth is “spread”, using a word which is used of plates being formed, this corresponds to the way scientists describe the earth. It is an example of the stunning accuracy of Scripture when describing “the things that are made”.⁶

Purposeful design

David wrote, “I will praise Thee; for I am fearfully and wonderfully made: marvellous are Thy works; and that my soul knoweth right well” (Ps. 139:14). As the example below will show, such is the wonder of the human body that authors of otherwise formal scientific textbooks sometimes resort to language that reflects this wonder.

The book *Principles of Human Anatomy* by Gerard J. Tortora is a standard textbook used by

medical students and other students on health-related courses. It is scientific in style and content. Mostly it provides a dispassionate description of the various structures of the human body. Yet every so often the formal style gives way to reflect the wonder of the human body. When describing the nucleus in the cell, Tortora writes, “A chromosome is a very long DNA molecule that is coiled and packed into an amazingly compact structure together with several proteins”⁷ (see [picture on p. 196](#)). In writing of the heart he says, “The heart is magnificently designed for its task of propelling blood through an estimated 100,000 km (60,000 mi) of blood vessels”.⁸ Concerning capillaries he states, “The primary function of capillaries is to permit the exchange of nutrients and wastes between the blood and tissue cells through interstitial fluid. The structure of capillaries is admirably suited to this purpose”.⁹

From these three quotes we see that aspects of the human anatomy are, according to Tortora, amazing, magnificent and admirable. That the wonder of the human body is reflected in such language in a formal scientific textbook is a witness to the remarkable evidence of creation. However, Tortora goes further, for he also uses the language of design.

What did he mean when he wrote that the heart is “magnificently designed”? There is no indication that he believes in a Divine Designer; but, irrespective of Tortora’s beliefs, it seems that the language of design is used because that best fits what is being described. At the beginning of his book, Tortora wrote: “You will see how each structure of the body is designed to carry out a particular function and how the structure of a part often determines the functions it performs”.¹⁰

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5. Condie, K. C. (2003), *Plate Tectonics and Crustal Evolution*, Oxford, Butterworth Heinemann, p. 1.
 6. There are further details which can be seen in Isaiah 42:5. God said that, in addition to spreading the earth, He also spreads “that which cometh out of it”. This could be a reference to volcanic action. Job 28:5 says of the earth: “under it is turned up as it were fire”. When this fire comes out as molten lava it then spreads itself on the earth. For a discussion of how the heavens are “stretched” by the expanding of the universe see Bernard, N. (1995), “The stretching of the heavens”, *Testimony*, Nov., pp. 438-41.
 7. Tortora, G. J. (1999), *Principles of Human Anatomy*, Menlo Park, Addison Wesley, p. 35.
 8. *Ibid.*, p. 393.
 9. *Ibid.*, p. 419.
 10. *Ibid.*, p. 2.

Again, the language of design is used, but in the second half of the sentence the structure is said to determine its function. Surely, if it is “designed to carry out a particular function”, then the function determines the structure. A more logical statement would be to say that *the structure has been determined by a Designer to achieve a particular function.*

Biologists are taught that they should avoid phraseology that implies purposeful design. Consider the following quotation from a university textbook on physiology:

“. . . elasticity and internal diameter [of arteries] are examples of the strong relationship between structure and function that one sees at all levels in biology. In physiology, this relationship is often so strongly apparent that so-called teleological statements are easily made . . . A teleological statement is one that implies design for a purpose, and you should avoid writing in this way as it is, however convenient, biologically incorrect”.¹¹

The authors concede that the appearance of structure being linked to function is so strong that it is “convenient” to imply purposeful design. Yet they urge their readers, potential embryonic biologists, to avoid writing in this way.

It would be wrong, however, to conclude that all scientists reject purposeful design. In 2001 Alan H. Linton, the then emeritus professor of bacteriology at the University of Bristol, critically reviewed a book by Niles Eldredge called *The Triumph of Evolution and the Failure of Creationism*. In this review, Professor Linton wrote: “All creationists believe in a Creator but often hold divergent views on biblical interpretation. They include leading research scientists, past and present, who find the theory of evolution to be scientifically untenable . . .”.¹² This comment provides a useful counterpoint to the impression sometimes given by the media that evolution is accepted by all leading scientists.

There is no doubting that living forms appear to be designed. The outspoken evolutionist Richard Dawkins notoriously wrote: “Biology is the study of complicated things that give the appearance of having been designed for a purpose”.¹³ The evolutionist has to argue that this appearance is deceptive. But the deceit lies in the denial of what is apparent, that living things have been magnificently designed by a Designer.

The evidence of reward

In Hebrews 11:6 the writer states the starting point for one who would come to God: “But without

faith it is impossible to please Him: for he that cometh to God must believe that He is, and that He is a rewarder of them that diligently seek Him”. Perhaps we do not always fully appreciate the significance of these words. This statement is about a person at the very beginning of a journey towards God.

Paul shows in Romans 1:20 the basis for believing that “God is”. He that would come to God has the evidence of creation as a basis for belief that there is a God, an “eternal power and Godhead”. We are comfortable with this; after all, do not some scientists say that the universe began with infinity? But a belief in an infinite “eternal power and Godhead” is not the only thing the person at the beginning of his journey must believe. That person must also believe that God is “a rewarder of them that diligently seek Him”. What is the basis for believing *this*?

We might respond to the above question by saying that Scripture provides this basis. This is true, and we can and do go to Scripture to show this. But, remember, here is a person at the beginning of his or her journey. Perhaps this traveller has not yet read the Bible. The implication is that creation provides evidence not only that “God is” but also that He “is a rewarder of them that diligently seek Him”.

Consider, for example, a flower we see in the field. The Lord Jesus said, “And why take ye thought for raiment? Consider the lilies of the field, how they grow; they toil not, neither do they spin: and yet I say unto you, That even Solomon in all his glory was not arrayed like one of these. Wherefore, if God so clothe the grass of the field, which to day is, and to morrow is cast into the

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11. The Open University (1993), “Science – Unit 23: Physiology”, Milton Keynes, p. 14. Instead of teleology, some scientists now prefer to talk about teleonomy, a term originally devised by C. S. Pittendrigh in 1958. This term, as the academic Itay Shani has commented, is meant “to account for apparently purposive structures, functions and behaviors as evolutionary adaptations, which could, in the final analysis, be analyzed into their ultimate mechanistic components”. See Shani, I. (2007), “Teleonomic functions and intrinsic intentionality: Dretske’s theory as a test case”, *Cognitive Systems Research*, 8, pp. 15-27. He quotes Richard Dawkins as saying that “in effect, teleonomy is teleology made respectable by Darwin”.
 12. <http://www.timeshighereducation.co.uk/story.asp?sectioncode=31&storycode=159282>.
 13. Dawkins, R. (2006), *The Blind Watchmaker*, London, Penguin, p. 1.

oven, shall He not much more clothe you, O ye of little faith?" (Mt. 6:28-30).

These words show that the Lord Jesus was ahead of his time in understanding just how marvellous is the growth and resultant array of a flower. But the Lord Jesus was not just making a comment about the marvel of creation. He then went on to say that the lilies were clothing for the grass. Furthermore, if such clothing were given to the grass, then even more so would God clothe His people.

It might be argued that we need the words of the Lord Jesus before we can come to such a conclusion from considering the lilies of the field. Maybe so, although perhaps that would indicate that we have little faith. However, the words of Hebrews 11:6 show that there is at least one thing

that the disciples were expected to conclude from the lilies of the field, even before the Lord Jesus spoke of them. That thing is this: given the wonder of creation, it is clear that Whoever created it must be a rewarder of those who diligently seek Him.

An appreciation of the above should encourage us to be more forthright and less defensive when preaching the gospel. Our starting position is much stronger than perhaps we realise. As Christians, whilst we are happy to acknowledge empirical scientific evidence as well as the truth of the Word of God, perhaps we are sometimes reluctant to conclude more from the evidence of creation itself. The amazing creation shows not only that does God exist, but also that the Creator must be a rewarder of those who diligently seek Him.